

## REMARKS

This is responsive to the Office Action mailed on June 5, 2002.

### Status of Claims

Claims 1–36 are pending in the above-identified application and stand rejected. Claims 1–8, 13–16, 18, 22, 23–25, and 35 are rejected under 35 USC § 102. claims 1–36 are rejected under 35 USC § 103. Claim 1 is also objected to.

### Claim Amendments

Claim 1 has been amended to:

- Describe the structure as consisting essentially of crosslinked cellulosic fibers, a temporary binding means and at least one additional material selected from the group consisting of high surface area fibers and wet strength means. Support for this amendment can be found at Claims 8 (fibers), 9 (cellulosic fibrous assembly and wet strength means), and 17 (high surface area fibers) as originally filed. Further support can be found at: page 13, lines 12–23 and Examples 1 and 2.
- Correct the typographical error in line 3 of Claim 1 that was pointed out by the Examiner.
- Provide a full spelling out of the term CDH (support page 4, line 3).

Claim 26 has also been amended to describe a structure similar to that described by Claim 1 as amended and uses the same basis for the amendment.

Claims 9 and 16 have been amended and Claims 8, 18, 19, 22–25, and 35 have been cancelled to be consistent with the amendment to Claim 1.

### Objection to Claim 1

Claim 1 is objected to because:

- In line 3 it appears that “mean” should be “means”.
- The term “CDH” should be spelled out for the sake of clarity.

Appropriate correction is required. Given that the Applicants have amended Claim 1 as suggested by the Examiner, they respectfully request reconsideration and withdrawal of the objection to Claim 1.

### Rejections Over Rhim, et al. (WO 99/32060)

Claims 1–8, 13–16, 18, 22, 25, and 36 are rejected under 35 USC § 102(a) as anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over WO 99/32060 to Rhim, et al.

The Office Action asserts that the Rhim reference discloses a thin until wet structure comprising a compressed web of cellulosic fibers (it may also comprise non-cellulosic fibers) which may be bonded with a temporary binding means (polyvinyl alcohol and hydrogen bonding are cited). The Rhim structure is said to have a dry density and is said to expand to 80% of its uncompressed thickness. The Office Action admits that the Rhim structure to discloses none of: an expanded wet density, a CDH and expansion rate. The Office Action concludes by asserting that either the structures disclosed by Rhim inherently possesses these claimed properties or one of ordinary skill could have optimized the structures so as to have these claimed properties.

#### **Rejection Under 35 USC § 102**

The Applicants respectfully direct the Examiner to the amendments to Claims 1 and 16 discussed above. The Applicants respectfully submit that the Rhim reference fails to anticipate Claim 1 and those claims depending therefrom for at least the following reasons:

- The Rhim reference fails to anticipate all of the elements of Claim 1 as amended. Specifically, as admitted by the Office Action at paragraph 6, the Rhim reference fails to teach a structure where the entire fibrous component is cellulosic. At best, the reference teaches structures that are blends of cellulosic and non cellulosic fibers.
- The Rhim reference fails to recognize any resilient fibers except those made from synthetic polymers. Importantly, as admitted in the Office Action, there is no mention at all of crosslinked cellulosic fibers in the Rhim reference.

The Applicants further point out that Claim 36 as filed already described structures containing only crosslinked cellulosic fibers, a wet strength means and a temporary binding means so the Rhim reference fails to anticipate Claim 36 for the same reasons as given above with respect to Claim 1 as amended. Given that the Applicants have shown that the Rhim reference fails to anticipate Claim 1 as amended and given that claims depending from Claim 1 have all the limitations of the base claim, the Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1–7, 13–16, 25, and 36 under 35 USC § 102 (a)

#### **Rejection Under 35 USC § 103**

The Applicants further submit that the Rhim reference fails to make Claims 1 and 16 as amended and Claim 36 as filed obvious for at least the reasons discussed above, particularly the failure to discuss crosslinked cellulosic fibers, and for the following additional reasons:

- Contrary to the assertion in the Office Action, the Rhim reference does not teach a structure comprising cellulosic fibers that may further comprise non-cellulosic fibers. The Applicants respectfully direct the Examiner to the paragraph bridging pages 9 and 10

of the Rhim reference. This paragraph, particularly the sentence bridging the pages, provides the most clear description of the structures. The Applicants respectfully submit that the structures described are clearly combinations of synthetic fibers and non-pulp (i. e. rayon and cotton)cellulosic fibers. Given this disclosure, the Applicants submit that one of skill in the art would not be led to structures where the fiber component consists essentially of cellulosic fibers as claimed.

- The Rhim reference teaches away from the use of the crosslinked fibers described in Claim 1 as amended and Claim 36 as filed. Specifically, besides failing to mention crosslinked cellulose fibers at all, as admitted in the Office Action, the Rhim reference teaches that wood pulp fibers are undesirable. Such a teaching would lead one of ordinary skill in the art away from structures where all of the fibers are wood pulp based.
- Contrary to the assertions of the Office Action, the multitude of structures “described” by the Rhim reference fail to inherently have or make obvious the structural properties (expanded wet density, compressed dry density and density ratio) and fluid handling properties (CDH) claimed in the present invention. Rather, the Rhim reference is merely a laundry list of nonwoven structures well known to the art. This laundry list is accompanied by a wish list of some properties (e. g. a compressed density that should (emphasis added to point out that this property is a wish, not a fact) expand to >80% of its uncompressed thickness) that may (or, likely not, because there is not enough disclosure for one of ordinary skill to know) be achievable by some unknown structure from among the multitude possible in the laundry list. It is clear that there is not enough disclosure to know whether the listed properties on the wish list can be achieved from the disclosure of Rhim because the only teaching is to form a carded web or an air laid web with an arbitrary level of an undefined binder. The Applicants further point out that the Rhim reference fails to have even one example that purports to possess the properties claimed in the application. In other words, the laundry list/wish list combination of Rhim falls far short of enabling one of ordinary skill in the art to reproduce the supposed “invention” described by the application without undue experimentation. In other words, there is insufficient information in the Rhim reference to make the property limitations of Claims 1 and 16 as amended and Claim 36 as filed obvious to one of ordinary skill in the art.

In summary, the Office Action fails to make a *prima facie* case of obviousness because the disclosure in the Rhim reference is not sufficient as shown above to lead one of ordinary skill in the art to the inventions described by Claims 1 and 16 as amended and Claim 36 as filed. Given that the Applicant shave shown that the Office Action fails to make a *prima facie* case of obviousness with respect to Claims 1 and 16 as amended and Claim 36 as filed and given that

claims depending from either Claim 1 or Claim 16 have all the limitations of the base claim, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection of Claims 1–7, 13–16, 25, and 36 under 35 USC § 103.

**Rejection over Rhim, et al. (WO 99/32060) in View of Hollenberg, et al. (US 5,779,860)**

Claims 9–12, 26–28, and 31–33 stand rejected as being unpatentable over Rhim, et al. as applied to Claims 1–8, 13–16, 18, 22, 25, and 35 as discussed above and further in view of Hollenberg, et al. (US 5,779,860). While asserting that the Rhim reference discloses a thin until wet structure, the Office Action admits that the Rhim reference fails to disclose a wet strength binder. The Office Action further states that the Hollenberg reference discloses a material comprising bonded cellulosic fibers. In particular, the Hollenberg reference is said to disclose polyamide-epichlorophydrin resins that are useful to impart wet strength to cellulosic fibers. The Office Action concludes by asserting that it would have been obvious to add the wet strength resins disclosed by the Hollenberg reference in order to enhance the resilience of the Rhim material when it is wet.

The Applicants direct the Examiner to Claims 1 and 26 as amended. As noted above, the Rhim reference alone both fails to make the crosslinked cellulose structures described by the amended claims obvious and fails to teach or disclose structure that would lead one of ordinary skill in the art to materials having the structural or fluid handling properties described by Claims 1 or 26 as amended. The addition of the Hollenberg reference still fails to make the claimed structures obvious for at least the following reasons:

- The combination cited by the Examiner cannot be made. Specifically, all of the web forming processes in the laundry list of the Rhim reference are dry while the wet strength resins disclosed by the Hollenberg reference requires an aqueous medium to deliver the resin and to permit the chemical reaction between the resin and the cellulose that provides the wet strength. The Applicants submit that one of skill in the art would not be led to combine the references because the web forming processes are so different that the likelihood of success is low.
- Even assuming wet strength resins could be applied to the structures described by the Rhim reference, such structures fail to make the structures described by Claims 1 and 26 as amended obvious. Specifically, a structure combining the teachings of the two cited references would comprise a blend of synthetic fibers (20-60%) and a non pulp cellulosic fiber such as rayon or cotton as described by Rhim in the paragraph bridging pages 9 and 10 where the cellulosic fiber is provided with wet strength by the resins disclosed by Hollenberg. The Applicants submit that such a combination fails to make the presently claimed structures where all fibrous components are cellulosic obvious because the

combination fails to describe a structure combining crosslinked cellulose fibers, a temporary binding means and a wet strength means as described by Claims 1 and 26 as amended.

Given that the Applicants have shown that the combination of the Rhim and Hollenberg references fails to make the both inventions described by Claims 1 and 26 as amended and the inventions described by claims depending from one of those independent claims obvious, The Applicants respectfully request that the Examiner reconsider the rejection of Claims 9–12, 26–28, and 31–33 under 35 USC § 103 and withdraw it.

**Rejection over Rhim, et al. (WO 99/32060) in view of  
Hollenberg, et al. (US 5,779,860)and Herron, et al. (US 5,137,537)**

While admitting that the combination of Rhim and Hollenberg fails to teach crosslinked cellulosic fibers, the Office Action adds the Herron patent in an attempt to overcome this deficiency and rejects Claim 36 over the combination. The Herron patent teaches absorbent structures containing individualized polycarboxylic acid crosslinked wood pulp cellulose fibers. The fibers described in the Herron patent have improved fluid retention properties compared to cellulose fibers crosslinked by prior art processes (col. 8, lines 50–57), improved fluid absorption properties compared to uncrosslinked cellulosic fibers (col. 17, lines 7–13) and improved wet resiliency compared to structures made from untreated cellulosic fibers (col. 17, lines 25–33).

In addition to Claim 36 as filed, Claims 1 and 26 as amended are also relevant with respect to this combination. Therefore, the Applicants will also discuss Claims 1 and 26 as amended as well as Claim 36 as filed with respect to the cited combination. The Applicants submit that the Examiner has failed to establish a *prima facie* case of obviousness using the combination of the Rhim and Hollenberg references with the Herron patent with respect to Claims 1 and 26 as amended and Claim 36 as filed for at least the following reasons:

- The combination of the references is improper. The motivation to add the Herron patent is said to be the enhanced absorbency of the material. The Applicants submit that there is nothing in either the Rhim or Hollenberg references that would lead one of skill in the art to desire enhanced absorbency. Conversely, it is clear that Rhim, et al. were well aware of the need for the fibers to be hydrophilic because they teach that the liquid applied to the Rhim structure wets the material and has a high capillary driving force causing liquid to move into and through the material (page 9, lines 9–15). As is well known, an aqueous liquid will not wet a material unless the material is hydrophilic. Rhim, et al. were well aware of the need for hydrophilicity because they also teach how to measure it (page 3, lines 17–24). Further, means of treating absorbent article components with surfactants to

make them hydrophilic were known to the art since at least 1984 (US Patent 4,456,570 to Thomas, et al.) In other words, the alleged basis for adding Herron to the combination is improper because the alleged basis is intended to solve a problem that doesn't exist in Rhim and one of ordinary skill in the art would not be led to look for solutions to a nonexistent problem.

- Even if one includes the Herron patent in the combination the resulting structure would be a blend of synthetic fibers and crosslinked cellulose with a wet strength resin. In other words, the resulting combination would not have a fibrous component consisting essentially of cellulosic fibers (either crosslinked fibers alone or crosslinked fibers blended with high surface area fibers) as described in Claims 1 and 26 as amended and in Claim 36 as filed.

Given that the Applicants have shown that the Examiner has failed to establish a *prima facie* case of obviousness using the combination of Rhim, Hollenberg and Herron with respect Claim 36 as filed and Claims 1 and 26 as amended and given that a dependent claim has all of the limitations of the base claim the Applicants respectfully request that the Examiner reconsider and withdraw the rejection of Claim 36 under 35 USC § 103 and refrain from rejecting Claims 1–7, 9–17, 20–22, and 26–34 over the same combination.

**Rejection over Rhim, et al. (WO 99/32060) in view of Seger, et al. (US 5,800,416)**

The Office Action rejects Claims 17–21, 29 and 30 under 35 USC § as being unpatentable over Rhim as discussed above and further in view of Seger, et al. (US 5,800,416). The Office Action admits that Rhim fails to disclose high surface area fibers and adds the Seger patent to overcome this deficiency. The Office Action states that the Seger patent teaches incorporating high surface area fibers will enhance the absorbency of absorbent materials by providing increased capillary pressure. The Office Action concludes by asserting that it would have been obvious to add high surface area fibers to the structure of the Rhim reference in order to enhance the absorbency of the material.

The Applicants refer the Examiner to the amendments to Claims 1 and 26 and point out that the rejected claims depend from one of these independent claims and have all of the limitations of the base claim. The Applicants further submit that the cited combination fails to make the inventions of Claims 17, 20 and 21 for at least the following reasons:

- A structure combining the teachings of the Rhim reference and the Seger patent would comprise a blend of synthetic and high surface area fibers. Given that Claims 1 and 26 as amended describe structures where all of the fibers are cellulosic, there is nothing in the cited combination that would lead one to such all cellulosic materials. As noted above, if anything, the Rhim reference leads away from the use of pulp derived cellulosic fibers.

- Also as noted above, the cited combination attempts to solve an absorbency issue that is not present in the Rhim reference. Specifically, the Rhim reference clearly is aware of what is necessary to provide structures comprising synthetic fibers with good absorbency and the addition of nor-preferred pulp fibers would not be seen as a needed improvement.

Given that the Applicants have shown that the cited combination fails to make Claims 17, 20 and 21 obvious, they respectfully request reconsideration and withdrawal of the rejection of these claims over the combination of Rhim, et al. and Seger, et al.

**Rejection Over Rhim, et al. (WO 99/32060) in view of Lippert, et al. (US 4,861,652)**

Using the Rhim reference as the basis for the absorbent structure, the Office Action rejects Claim 34 over the combination of Rhim and Lippert where Lippert provides the claimed softening process.

The Applicants direct the Examiner to Claim 1 as amended and point out that they have shown above why the Rhim reference fails to make the amended claim obvious. Claim 34 depends from Claim 1 having all the limitations of the base claim and adds softening. The cited combination fails to make the invention of Claim 34 obvious for at least the following reasons:

- One of skill in the art would not be led to combine the Lippert reference with the Rhim reference in order to soften the fibrous structures described by Rhim. Specifically, the Lippert reference is directed to elasticized waistbands and col. 8, lines 19–68 therein discusses providing a reduced stiffness waistband portion. The waistband portion therein is defined by the backsheet layer (col. 8, line 21–22) so the reduced stiffness would be achieved by reducing the stiffness of the backsheet layer. As is well known backsheet materials are typically polymeric films or laminates of polymeric films with nonwoven materials. The Applicants contend that one of ordinary skill in the art would not be led to use techniques suitable for softening films as a softening step for an absorbent material.
- The softened Rhim structure differs from the structure described by Claim 34. Even if the softening techniques of the Lippert reference were applied to the materials described by Rhim, such softened materials would comprise a combination of synthetic and non pulp cellulosic fibers. As discussed above, the Rhim materials fail to make structures containing only cellulosic fibers obvious because of their synthetic fiber content.

Given that the Applicants have shown that the combination of the Rhim and Lippert references fails to make the invention described by Claim 34 obvious, they respectfully request that the Examiner withdraw the rejection.

**Carlucci, et al. (WO 98/00084)**

Claims 1–8 and 23–25 stand rejected under 35 USC § 102 (b) as anticipated by or, in the alternative, as obvious over Carlucci, et al. (WO 98/00084). The Carlucci, et al application describes cellulosic sponge material that is densified and held by hydrogen bonds until it expands on wetting.

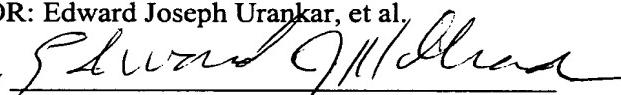
Given the amendments to Claim 1 to describe only fibrous structures and the cancellation of all claims relating to sponges the Applicants respectfully submit that the rejection with respect to Carlucci, et al. is moot and request that the Examiner withdraw the rejection with respect to Claims 1–7.

**SUMMARY**

All of the rejections in the Office Action have been discussed as have the distinctions between the cited references and the claimed invention. No new matter has been added by the Amendment. In light of the amendments to the claims and discussions contained herein, the Applicants respectfully request reconsideration of the rejections, their withdrawal, and allowance of all of the claims. Issuance of a Notice of Allowance at an early date is earnestly solicited.

Respectfully submitted,

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